

REMARKS

Applicants initially acknowledge with appreciation the courtesies extended by Examiner Lund during the personal interview held with Applicants' representatives on October 6, 2006.

By this amendment, independent claims 1 and 21 have been amended. Support for the changes to claims 1 and 21 is found, *inter alia*, at page 14, line 10 through page 15, line 6 of the specification and in Figure 5. Claims 9 and 13-19 stand withdrawn from consideration and claims 4 and 6 were previously cancelled. Claims 1-3, 5, 7, 8, 10-12 and 20-23 are presented for further examination.

The rejection of claims 1-3, 5, 7, 8, 10-12 and 21-23 under 35 U.S.C. § 112, second paragraph, is believed overcome by the amendments to independent claims 1 and 21. Specifically, claims 1 and 21 have been amended to more clearly recite the structural cooperative relationships between elements, and claim 21 has been amended to provide proper antecedent basis for the independent gas flow passage as well as to rewrite first and second gas flow passages as first and second independent gas flow passages. No further correction is believed necessary.

The rejection of claims 1-3, 5, 10, 20 and 23 under 35 U.S.C. § 102(b) over Dhindsa, US 6,245,192, and the rejection of claims 7, 8, 11 and 12 under 35 U.S.C. § 103(a) over Dhindsa in view of Fujikawa, US 5,595,606 are respectfully traversed.

Claim 1, as amended, requires that first and second gas flow passages supply gas via through holes exclusively to a respective center area and end area of the hollow portion. According to the claimed configuration, a first gas flows from the center area of the hollow portion through the supply plate only to a center area of the process chamber, and a second gas flows from the end area of the hollow portion through the supply plate only to an end area of the process chamber. As acknowledged by the Examiner, this partitioning of the first and second gases within the supply plate and into the process chamber is not reasonably taught or suggested by Dhindsa. Rather, in the gas distribution system of Dhindsa, gas from both the first and second gas supplies 60, 64 mixes in the channels 88 and then flows through a third set of openings 90 in the showerhead.

Applicants respectfully submit that Fujikawa, which was cited for teaching boring and sealing of holes as well as the prevention of gas mixing prior to gas flow into the process chamber, fails to cure the deficiencies of Dhindsa with respect to the structural limitations recited in claim 1. Accordingly, claims 1-3, 5, 7, 8, 10-12, 20 and 23 are deemed patentable. Reconsideration and withdrawal of the rejections are respectfully requested.

The rejection of claims 21 and 22 under 35 U.S.C. § 103(a) over Roithner, US 6,294,026, in view of Fujikawa is respectfully traversed.

Claim 21 recites, in pertinent part, a process system having a first independent gas flow passage and a second independent gas flow passage each

formed in a first diffusion portion and a second diffusion portion. Pointedly, claim 21 requires two diffusion portions that comprise first and second independent gas flow passages for supplying a first process gas only to a center area of a chamber, and a second process gas only to an end area of a chamber.

As acknowledged in the Office Action, Roithner does not teach or suggest a second diffusion portion which leads gas diffused by a first diffusion portion to gas holes, much less that a first diffusion portion and a second diffusion portion comprise mutually independent gas flow passages. For at least the reasons set forth below, the combination of Fujikawa with Roithner would not reasonably suggest or render obvious the claimed structure.

Roithner teaches a showerhead having center and edge gas distribution zones 34, 36. One would not have been motivated to further complicate the structure of Roithner by providing an additional diffusion portion as taught by Fujikawa. Roithner teaches that additional zones can be formed by adding additional partitions, but does not suggest an additional diffusion portion (see, e.g., column 3, lines 1-45).

Fujikawa and Roithner disclose completely different showerheads having completely different functions. It would not have been obvious to combine the features of a showerhead adapted to provide a uniform distribution of gases with a showerhead adapted to provide a partitioned distribution of gases.

In the showerhead of Fujikawa, for example, gas passages for the first and second gases are not configured to supply a first gas only into a center area of a

chamber, and a second gas only into an end area of a chamber. Rather, the diffusion portions taught by Fujikawa provide a uniform distribution of gases, and not a partitioned distribution of gases (see, e.g., column 6, lines 32-39, column 10, lines 40-44, and Figures 1 and 13 of Fujikawa). There is no teaching that the first and second diffusion portions of Fujikawa's showerhead could be adapted to Roithner's distribution plate.

Because a second diffusion portion adds an additional component, one would not have been motivated to modify Roithner's distribution plate. Further, one would not have had a reasonable expectation of successfully doing so based on the inherent differences between the distribution plates of Fujikawa and Roithner. In view of the foregoing, reconsideration and withdrawal of the rejection are respectfully requested.

Finally, claim 1 is also deemed patentable over the combination of Roithner and Fujikawa. Claim 1 relates to a process system having a supply plate, a first diffusion portion, and a second diffusion portion. According to claim 1, the second diffusion portion is comprised of a disk-like member having a groove formed in one side thereof, wherein the second diffusion portion is placed over the supply plate to form a hollow portion. Pointedly, claim 1 requires that the groove is formed in the second diffusion portion, which is placed over the supply plate to form the hollow portion. This structure is not reasonably taught or suggested by the cited references.

Fujikawa teaches a showerhead that is adapted to provide a uniform distribution of gases. Fujikawa does not disclose or suggest a second diffusion portion comprised of a disk-like member having a groove formed in one side thereof defining a hollow portion.

Roithner, as discussed above, does not even teach a second diffusion portion, much less a second diffusion portion comprised of a disk-like member having a groove formed in one side thereof.

In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

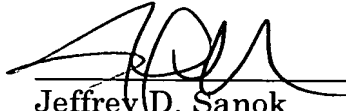
If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned at (202) 624-2995 would be appreciated since this should expedite the prosecution of the application for all concerned.

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Reply to Office Action
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If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #101246.52582US).

Respectfully submitted,

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